

Peale (A. C.)

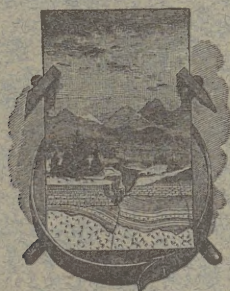
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
J. W. POWELL, DIRECTOR

MINERAL WATERS

BY

A. C. PEALE

ABSTRACT FROM "MINERAL RESOURCES OF THE UNITED STATES
CALENDAR YEAR 1888"—DAVID T. DAY, CHIEF OF THE
DIVISION OF MINING STATISTICS AND TECHNOLOGY



WASHINGTON
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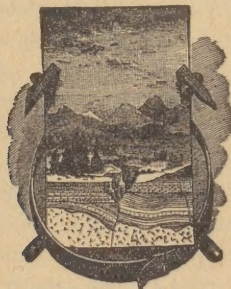
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The list for 1888 of the mineral springs of the United States of which the waters are used commercially includes a total of 198 springs, instead of 215, as published for 1887. All the springs from which no reports have been received for several years have been taken from the list, except in a few cases where it is well known that the water is on sale. The springs actually reporting give increased figures, and according to these the number of gallons sold in 1888 was more than 2,000,000 greater than in 1887, with an increased value of over \$600,000, while the number of springs was 17 less. The estimate for the fifty-two springs not reporting has been kept comparatively low. The total product as footed up is 1,319,039 gallons more for 1888 than for 1887, and the increased value \$417,829.

The number of springs reporting in the North Atlantic States is 42, as compared with 40 for 1887, although the total for the section is less than then stated.

The number of gallons sold and the value both show a considerable increase. Four springs not hitherto included in the lists have been added, viz: Alburgh Sulphur and Lithia springs, at Alburgh Springs, Vermont, and the following at Saratoga Springs, New York: Imperial spring, Patterson spring, and the Royal spring.

In the South Atlantic States the following have been added to the list: Osceola Lithia water, Harrisonburgh, Virginia, Triplet springs, Willow Island, West Virginia, and the Lincoln Lithia spring of Lincoln, North Carolina. Notwithstanding these additions, the total for the section is less than a year ago, and the number actually reporting is two less. The product, however, has more than doubled, with a large increase in value.

The list for the Southern Central States is decreased by 1, but the number reporting falls from 29 to 19; consequently there is for this section a considerable decrease in both the product and its value.

The Northern Central States show a very large increase in the product and its value, while the number of springs reporting remains the same as for the previous year. One addition has been made to the list—Sanicula springs, Ottawa, Illinois; but notwithstanding this the total for the section is less by four than it was in 1887.

The Western States and Territories also show a large increase in the product and a corresponding increase in its value. The list also is larger by 2 springs, both of which are in California, viz: Bartlett springs and Ætna springs.

The imports for 1888, both of the artificial and the natural mineral waters, show a decrease from the importation of 1887.

Mineral waters imported and entered for consumption in the United States, 1867 to 1883, inclusive.

Fiscal years ending June 30—	In bottles of 1 quart or less.		In bottles in excess of 1 quart.		Not in bottles.		All, not artificial.		Total.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	<i>Bottles.</i>		<i>Quarts.</i>		<i>Gallons.</i>		<i>Gallons.</i>		
1867	370,610	\$24,913	3,792	\$360		\$137			\$25,410
1868	241,702	18,438	22,819	2,052	554	104			20,594
1869	344,691	25,635	9,739		1,042	245			26,682
1870	433,212	30,680	18,025	1,743	2,063	508			32,931
1871	470,947	34,604	2,320	174	1,336	141			34,919
1872	892,913	67,951			639	116			68,067
1873	35,508	2,326			355	75	394,423	\$98,151	100,552
1874	7,238	691			95	16	199,035	79,789	80,496
1875	4,174	471			5	2	395,956	101,640	102,113
1876	25,758	1,399					447,046	134,889	136,788
1877	12,965	1,328				22	520,751	167,458	168,808
1878	8,229	815					883,674	350,912	351,727
1879	28,440	2,352			3	4	798,107	282,153	284,509
1880	207,554	19,731					927,759	285,798	305,529
1881	150,326	11,850			55	26	1,225,462	383,616	395,492
1882	152,277	17,010					1,542,905	410,105	427,115
1883	88,497	7,054					1,714,085	441,439	448,493

It appears from the foregoing table that previous to 1883 natural mineral waters were not distinguished from the artificial waters. Since 1884 the artificial waters have not been classified according to the receptacles in which they have been imported.

Imports for the fiscal years 1884 to 1888, inclusive.

[Calendar years ending December 31 from 1886 to 1888; previous years end June 30.]

Years.	Artificial mineral waters.		Natural mineral waters.	
	Gallons.	Value.	Gallons.	Value.
1884	29,366	\$4,591	1,505,298	\$362,651
1885	7,972	2,157	1,660,072	397,875
1886	62,464	16,815	1,618,960	354,242
1887	13,885	4,851	1,915,511	385,906
1888	12,752	4,411	1,716,461	341,695

EXPORTS.

Exports of natural mineral waters, of domestic production, from the United States.

Fiscal years ending June 30—	Value.	Fiscal years ending June 30—	Value.
1875	\$162	1881	\$1,029
1876	80	1882	421
1879	1,529	1883	459
1880	1,486	1884, 1885, 1886, 1887, and 1888	None.

The amount of artificial mineral waters exported is also trifling.

PRODUCTION.

Natural mineral waters sold from 1883 to 1888, inclusive.

	Springs report- ing.	Gallons sold.	Value.
1883.			
North Atlantic States.....	38	2,470,670	\$282,270
South Atlantic States.....	27	312,090	64,973
Northern central States.....	37	1,435,809	323,600
Southern central States.....	21	1,441,042	139,973
Western States and Territories.....	6	169,812	52,787
Estimated.....	129	5,829,423	863,603
	60	1,700,000	256,000
Total.....	189	7,529,423	1,119,603
1884.			
North Atlantic States.....	38	3,345,760	328,125
South Atlantic States.....	27	464,718	103,191
Northern central States.....	37	2,070,533	420,515
Southern central States.....	21	1,526,817	147,112
Western States and Territories.....	6	307,500	85,200
Estimated.....	129	7,715,328	1,084,143
	60	2,500,000	375,000
Total.....	189	10,215,328	1,459,143
1885.			
North Atlantic States.....	51	2,527,310	192,605
South Atlantic States.....	32	908,692	237,153
Northern central States.....	45	2,925,288	446,211
Southern central States.....	31	540,436	74,100
Western States and Territories.....	10	509,675	86,776
Estimated.....	169	7,411,401	1,036,845
	55	1,737,000	276,000
Total.....	224	9,148,401	1,312,845
1886.			
North Atlantic States.....	49	2,715,050	177,969
South Atlantic States.....	38	720,397	123,517
Northern central States.....	40	2,048,914	401,861
Southern central States.....	31	822,016	58,222
Western States and Territories.....	14	781,540	137,796
Estimated.....	172	7,087,917	899,365
	53	1,862,400	384,705
Total.....	225	8,950,317	1,284,070
1887.			
North Atlantic States.....	40	2,571,004	213,210
South Atlantic States.....	34	614,041	147,149
Northern central States.....	38	1,480,820	208,217
Southern central States.....	29	741,080	87,946
Western States and Territories.....	12	1,236,324	288,737
Estimated.....	153	6,643,269	945,259
	62	1,616,340	316,204
Total.....	215	8,259,609	1,261,463
1888.			
North Atlantic States.....	42	2,856,799	247,108
South Atlantic States.....	32	1,689,387	493,489
Northern central States.....	38	2,002,373	325,839
Southern central States.....	19	426,410	71,215
Western States and Territories.....	15	1,853,679	421,651
Estimated.....	146	8,828,648	1,559,302
	52	750,000	120,000
Total.....	198	9,578,648	1,679,302

Alabama.—Two of the well known springs of Alabama failed to report for 1888, and the total for the State is therefore materially less than for 1887. The following are the springs reporting: Healing springs, Healing Springs, Washington county; Star of Bethlehem springs, Greenville, Butler county; White Sulphur springs, Sulphur Springs, De Kalb county.

Arkansas.—Only three springs of Arkansas report sales, and the total number of springs commercially used from the State is reduced to five. The name of Boyd springs has been changed to Arkansas Lithia springs. The following report sales for 1888: Arkansas Lithia springs, Hope, Hempstead county; Potash Sulphur springs, Potash Sulphur, Garland county; Mountain Valley springs, Mountain Valley, Garland county.

California.—The total number of springs for California is increased from seven in 1887 to nine in 1888, and all report sales. The two springs new to the list are Ætna springs and Bartlett springs. The following is the complete list of those reporting sales for 1888: Ætna springs, Lidell post-office, Napa county; Azule springs, San José, Santa Clara county; Bartlett springs, Bartlett Springs, Lake county; Castalian Mineral Water, Inyo county; Geyser Soda springs, Litton's, Sonoma county; Litton Seltzer, Litton's, Sonoma county; Napa Soda springs, Napa Soda Springs, Napa county; Pacific Congress springs, Saratoga, Santa Clara county; Tolenas Soda springs, Fairfield, Solano county.

Colorado.—Colorado shows no change in the number of springs reporting, although there is an increase in both the amount and value of the sales. The springs are: Manitou springs, Manitou Springs, El Paso county; Springdale Seltzer spring, Springdale, Boulder county.

Connecticut.—Three of the springs for this State report, with increased figures. These are: Aspinock springs, Putnam Heights, Windham county; Bozrah springs, Bozrah, New London county; Oxford chalybeate springs, Oxford, New Haven county.

Georgia.—Two springs report for 1888, with figures largely increased over those of 1887. The springs are: Catoosa springs, Catoosa Springs, Catoosa county; Ponce de Leon springs, Atlanta, Fulton county.

Idaho.—The one commercial water of Idaho is represented in the list for 1888 with largely increased sales and a new name, as follows: Idanha springs, Soda Springs, Bingham county.

Illinois.—One new spring is added to the list of commercial waters for Illinois, namely, Sanicula springs. Three springs in all report sales for 1888, as follows: Glen Flora springs, Waukegan, Lake county; Perry springs, Perry Springs, Pike county; Sanicula springs, Ottawa, La Salle county.

Indiana.—Five springs report for 1888, as follows: Hosea's New Point Comfort springs, Blue Lick, Clark county; Indian springs, Indian Springs, Martin county; King's mineral spring, Muddy Fork, Clark county; Lithium spring, Attica, Fountain county; West Baden springs, West Baden, Orange county.

Iowa.—Iowa is represented on the list for 1888 by the three springs usually reporting. They are: Dunbar's mineral spring, College Springs, Page county; Old M. C. spring, Colfax, Jasper county; Ottumwa mineral springs, Ottumwa, Wapello county.

Kansas.—The representation of Kansas for 1888 is increased to five from the three of 1887. The springs reporting are: Blasing's artesian mineral wells, Manhattan, Riley county; Conway springs, Conway Springs, Sumner county; Geuda springs, Geuda Springs, Cowley county; Iola mineral well, Iola, Allen county; Topeka mineral wells, Topeka, Shawnee county.

Kentucky.—Only one spring from this State reports its sales for 1888, namely: Lower Blue Lick springs, Blue Lick Springs, Nicholas county.

Maine.—Six springs of this State report for 1888. They are: Boothbay medicinal spring, East Boothbay, Lincoln county; Hartford cold spring, Hartford, Oxford county; Poland spring, South Poland, Androscoggin county; Scarborough spring, Scarborough, Cumberland county; Summit spring, Harrison, Cumberland county; Underwood spring, Falmouth Foreside, Cumberland county.

Maryland.—No reports have been received from any Maryland springs.

Massachusetts.—The same number of springs report for 1888 as for 1887, but with increased sales: Allandale springs, West Roxbury, Suffolk county; Crystal spring, Stoneham, Middlesex county; Commonwealth spring, Waltham, Middlesex county; Echo Grove spring, Lynn, Essex county; Everett crystal spring, Everett, Middlesex county.

Michigan.—The only spring in Michigan reporting for 1888 is the Mount Clemens mineral spring, of Mount Clemens, Macomb county.

Minnesota.—Is represented in the list by the Inglewood spring, of Minneapolis, Hennepin county.

Mississippi.—Three springs report for 1888, as follows: Castalian springs, Durant, Holmes county; Cooper's well, Raymond, Hinds county; Godbold mineral well, Summit, Pike county.

Missouri.—Six springs report for 1888, with increased figures over those of 1887. The springs reporting are: Akesson spring, Sweet Springs, Saline county; El Dorado springs, El Dorado Springs, Cedar county; Mooresville mineral springs, Mooresville, Livingston county; Randolph springs, Randolph, Clay county; Reiger springs, Mercer county (post-office address, Lineville, Wayne county, Iowa); Sweet springs, Sweet Springs, Saline county.

New Hampshire.—Two springs report for 1888, as follows: Bradford springs, East Washington, Merrimack county; Milford (Ponemah) springs, Milford, Hillsborough county.

New Mexico.—Ojo Caliente, in Taos county, is the only spring in the Territory that reports sales.

New York.—More than half of the commercially used mineral springs of New York report for 1888. Among the seventeen that send reports

are three new to our list, namely, the Patterson spring, the Royal spring, and the Imperial spring, all of Saratoga. The Royal replaces the Old Putnam spring. The springs reporting are: Artesian Lithia spring, Ballston, Saratoga county; Avon springs, Avon, Livingston county; Deep Rock springs, Oswego, Oswego county; Massena springs, Massena, Saint Lawrence county; Oak Orchard Acid springs, Alabama, Genesee county; Carlsbad spring, Saratoga Springs, Saratoga county; Champion spring, Saratoga Springs, Saratoga county; Hathorn spring, Saratoga Springs, Saratoga county; High Rock spring, Saratoga Springs, Saratoga county; Imperial spring, Saratoga Springs, Saratoga county; New Putnam spring, Saratoga Springs, Saratoga county; Patterson spring, Saratoga Springs, Saratoga county; Royal spring, Saratoga Springs, Saratoga county; Vichy spring, Saratoga Springs, Saratoga county; Verona springs, Verona, Oneida county; Victor spring, Darien Centre, Genesee county; White Sulphur springs, Sharon Springs, Schoharie county.

North Carolina.—The Leinster Poison springs change their name to Barium springs, and one new spring is added to the list, which, as completed, includes the following: Barium springs, Barium Springs, Iredell county; Lincoln Lithia springs, Lincolnton, Lincoln county; Panacea springs, Panacea Springs, Halifax county; Park's Alkaline spring, Caswell county (post-office address, Danville, Virginia); Seven springs, Seven Springs, Wayne county; Thompson's Bromine-Arsenic springs, Crumpler, Ashe county.

Ohio.—There is a decrease of one on the list of springs for Ohio. The springs reporting are: Electro-Magnetic springs, Fountain Park, Campaign county; Green spring, Green Spring, Seneca county; Len-a-pe spring, Delaware, Delaware county; Odevene spring, Delaware, Delaware county; Ohio Magnetic spring, Magnetic Springs, Union county.

Oregon.—Only one report has been received from Oregon. It is from McCallister's springs, Lake creek, Jackson county.

Pennsylvania.—Three springs give figures for 1888. They are: Black Barren springs, Pleasant Grove, Lancaster county; Minnequa springs, Minnequa, Bradford county; Ponce de Leon springs, Meadville, Crawford county.

Rhode Island.—The two springs of Rhode Island report increased sales for 1888. The springs are: Holly springs, Woonsocket, Providence county; Ochee springs, Providence, Providence county.

South Carolina.—Only one of South Carolina's localities reports for 1888. It is Chick's springs, Chick's Springs, Greenville county.

Tennessee.—Four springs report. They are: Idaho springs, Clarks-ville, Montgomery county; Red Boiling springs, Red Boiling Springs, Macon county; Rhea springs, Rhea Springs, Rhea county; Tate springs, Tate Springs, Grainger county.

Texas.—Reports have been received from five springs, as follows: Crabtree's sour wells, Sour Springs, Hopkins county; Hynsen's iron

mountain spring, Marshall, Harrison county; Palo Pinto mineral wells, Mineral Wells, Palo Pinto county; Texas sour springs, Luling, Caldwell county; Wootan wells, Wootan Wells, Robertson county.

Vermont.—Four of Vermont's seven localities report sales for 1888. They are: Alburgh springs, Alburgh Springs, Grand Isle county; Brunswick White Sulphur springs, Brunswick, Essex county; Clarendon springs, Clarendon Springs, Rutland county; Elgin spring, Vergennes, Addison county.

Virginia.—One new spring, the Osceola Lithia, is added to the list, and seventeen springs in all report for 1888, as follows: Bear Lithia springs, Elkton, Rockingham county; Blue Ridge springs, Blue Ridge Springs, Botetourt county; Buffalo Lithia springs, Buffalo Lithia Springs, Mecklenburgh county; Chase City mineral water, Chase City, Mecklenburgh county; Farmville Lithia springs, Farmville, Prince Edward county; Healing springs, Healing Springs, Bath county; Hunter's Pulaski alum springs, Sasson, Pulaski county; Massanetta springs, Massanetta Springs, Rockingham county; Osceola Lithia water, Harrisonburgh, Rockingham county; Rockbridge alum springs, Alum Springs, Rockbridge county; Rock Enon springs, Rock Enon Springs, Frederick county; Rockingham springs, McGaheysville, Rockingham county; Seven springs, Abingdon, Washington county; Shenandoah alum springs, Shenandoah Alum Springs, Shenandoah county; Stribling springs, Stribling Springs, Augusta county; Wallawhatoola alum water, Millborough Springs, Bath county; Wolf Trap Lithia water, Wolf Trap, Halifax county.

Washington.—Medical Lake, Spokane county, reports increased sales for 1888.

West Virginia.—One addition is made to the West Virginia list in the Triplet springs. Six report as follows: Capon springs, Capon Springs, Hampshire county; Irondale springs, Independence, Preston county; Red Sulphur springs, Red Sulphur Springs, Monroe county; Salt Sulphur springs, Salt Sulphur Springs, Monroe county; Triplet springs, Willow Island, Pleasants county; White Sulphur springs, White Sulphur Springs, Greenbrier county.

Wisconsin.—Nine springs report for 1888. They are: Arcadian spring, Waukesha, Waukesha county; Bethesda spring, Waukesha, Waukesha county; Gihon spring, Delavan, Walworth county; Horeb mineral spring, Waukesha, Waukesha county; Mineral Rock spring, Waukesha, Waukesha county; Prairie du Chien artesian wells, Prairie du Chien, Crawford county; Sheboygan mineral water, Sheboygan, Sheboygan county; Shealtiel springs, Waupaca, Waupaca county; Siloam spring, Waukesha, Waukesha county.

Summary of reports of mineral springs for 1888.

	Springs report- ing.	Springs not re- porting.	Total used com- mercially.		Springs report- ing.	Springs not re- porting.	Total used com- mercially.
NORTH ATLANTIC STATES.				NORTH CENTRAL STATES.			
Maine.....	6	1	7	Ohio.....	5	2	7
New Hampshire.....	2	2	4	Indiana.....	5	1	6
Vermont.....	4	2	6	Illinois.....	3	1	4
Massachusetts.....	5	1	6	Michigan.....	1	0	1
Rhode Island.....	2	0	2	Wisconsin.....	9	3	12
Connecticut.....	3	2	5	Minnesota.....	1	0	1
New York.....	17	13	30	Iowa.....	3	0	3
New Jersey.....	0	0	0	Missouri.....	6	0	6
Pennsylvania.....	3	1	4	Dakota.....	0	0	0
				Nebraska.....	0	0	0
				Kansas.....	5	0	5
SOUTH ATLANTIC STATES.				WESTERN STATES AND TER- RITORIES.			
Delaware.....	0	0	0	Alaska.....	0	0	0
Maryland.....	0	1	1	Wyoming.....	0	0	0
District of Columbia.....	0	0	0	Montana.....	0	0	0
Virginia.....	17	5	22	Colorado.....	2	0	2
West Virginia.....	6	1	7	New Mexico.....	1	0	1
North Carolina.....	6	0	6	Arizona.....	0	0	0
South Carolina.....	1	2	3	Utah.....	0	0	0
Georgia.....	2	0	2	Nevada.....	0	0	0
Florida.....	0	0	0	Idaho.....	1	0	1
SOUTH CENTRAL STATES.				Washington.....	1	0	1
Kentucky.....	1	5	6	Oregon.....	1	1	2
Tennessee.....	4	2	6	California.....	9	0	9
Alabama.....	3	2	5				
Mississippi.....	3	0	3	Total.....	146	52	198
Louisiana.....	0	0	0				
Texas.....	5	2	7				
Indian Territory.....	0	0	0				
Arkansas.....	3	2	5				

